**SUPPLEMENTARY FIGURES LEGENDS**

**Supplementary Figure 1. A**) Four ECCs (IK, AN3CA, MFE-296 and HEC-1A) were treated with Dovitinib (0.05–0.1–0.5–1–2.5 µmol/L) for 48 and 72 hours, and cell viability was assessed by MTT assay. **B**) Three ECCs (AN3CA, MFE-296 and HEC-1A) were treated with 0.5 µmol/L of Dovitinib or vehicle for 72 h, after quantification of the percentage of BrdU-positive cells was assessed.

**Supplementary Figure 2.** Four ECCs (IK, AN3CA, MFE-296 and HEC-1A) were treated with Dovitinib (0.05–0.1–0.5–1–2.5 µmol/L) for 72 hours. Cells were stained with Hoechst. The graph on the right shows the percentage of cells displaying apoptotic nuclei in each condition.

**Supplementary Figure 3)** Representative graphs mean of cell survival (in percentages) for each combination of Dovitinib and ICI. Confidence intervals as estimated from the linear models are shown. Experiments were performed, at least, 3 times on 3 independent days.

**Supplementary Figure 4.** Endometrial cancer cell lines were treated with ICI 182,780 at 100nM. Total protein lysates were extracted at indicated times after treatment and were subjected to western blot for the expression of ERα. Tubulin is shown as at loading control.

**Supplementary Figure 5.** Uteri from mice treated during 15 days with Dovitinib (20mg/kg daily) and/or ICI182.780 (5mg/kg) were extracted. Immunostaining for ERα and Cyclin D1 was performed to ensure ICI182.780 treatment.